

FORSAKEN BOND: OPERATIONAL ART AND THE MORAL ELEMENT OF WAR

**A MONOGRAPH
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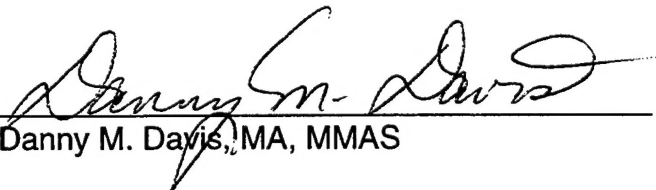
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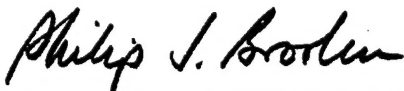
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ABSTRACT

Title: FORSAKEN BOND: OPERATIONAL ART AND THE MORAL ELEMENT OF WAR, 46 pages.

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Most important of the changes affecting today's Army, probably, is the manner in which the Army conceptualizes the performance of its primary missions—protecting and defending the Constitution and fighting the nation's wars. Current institutional changes and projected doctrinal evolution manifested within Joint and Army operational doctrine reflect an increased reliance upon automation and technology as the keys to wartime success and as panaceas to victory. Operational art, "reborn" in the Army since 1982, is one of the victims of this techno-dominant mindset.

What many modern theorists and forward-thinking military writers either de-emphasize or neglect is that operational art is a human endeavor, assisted by man-made inventions but promulgated by uniquely human skill and effort. It also is the method by which the human participant grasps the phenomenon of armed conflict which defies stereotypes and definitive rules--the moral element of war, of which the human element is a major component. The real danger in neglecting this facet of war is that operations will become rigid, solutions to problems predictable and vulnerable, and the final results predetermined to failure.

This paper establishes the linkage between operational art and the moral element of war through the definition of each, a description of their relationship to the environment of war, examples of their importance from recent military history, and a deduction of their future role based upon current and projected technological development, doctrine, and organization in the U. S. Army. It discusses the origins and context of modern operational art in the U. S. Army, the components and theoretical constructs of the moral element of war and their relationship to war in general, the ramifications of technological advancements and the alleged, current Revolution in Military Affairs (RMA) on operational art, the enduring relationship between the moral element of war and operational art and their role and significance in current Army and Joint operations doctrine, and finally recommends an institutional course of action for the professional development and nurturing of operational art in commanders and staff officers.

**“We have become an army of amateurs in one of the
most critical military subjects.”***

* L. D. Holder, “A New Day for Operational Art,” *Army* (March 1985), 24.

TABLE OF CONTENTS

I. INTRODUCTION	1
II. OPERATIONAL ART DYNAMICS.....	5
<i>OPERATIONAL ART DEFINED.....</i>	<i>6</i>
<i>ORIGINS OF OPERATIONAL ART</i>	<i>9</i>
<i>CURRENT DOCTRINAL CONTEXT.....</i>	<i>16</i>
III. THE MORAL ELEMENT OF WAR	21
IV. FUTURE OPERATIONS—OPERATIONAL ART AND THE MORAL ELEMENT OF WAR.....	35
V. CONCLUSION.....	40
APPENDIX.....	46
NOTES	47
BIBLIOGRAPHY.....	55

I. INTRODUCTION

“Originality, not conventionality, is one of the main pillars of generalship.”¹

The U. S. Army is irrevocably connected to the society from which it derives its authority and strength, and rightly so. As such, technological advancements, global power shifts, strategic necessities, and both political and public desires have historically affected the degree and amount of change in the Army. Though two-hundred plus years separates today’s Army from its inaugural predecessor, it is essentially not different from its earliest manifestation in its relationship to external forces. The Army exists in a dynamic state which constantly adjusts to many influences and energies.

Most important of the changes affecting today’s Army, probably, is the manner in which the Army conceptualizes the performance of its primary missions—protecting and defending the Constitution and fighting the nation’s wars.² Current institutional changes manifested within Joint and Army doctrine reflect an increased reliance upon automation and technology as the keys to wartime success and as panaceas to victory. Operational art, “reborn” in the Army since 1982, is one of the victims of this techno-dominant mindset.³

Although the concept of operational art is relatively new, its characteristics and substance have existed throughout history and have long been regarded as necessary to modern warfare in the accomplishment of a nation’s objectives.⁴ To synthesize numerous interpretations and generalize its functions, operational art is defined as the moral and physical planning and employment of tactical military forces in combat through campaigns, major operations, and battles to accomplish certain theater-level (operational) objectives,

the achievement of which enable fulfillment of strategic (theater or national) goals and a previously defined strategic end-state.⁵ The conceptualization of the process whereby this is done, the transmission of the concept and plan to executing units, and the supervision of operational execution all require unique cognitive and intuitive abilities in military professionals tasked to perform this feat. The moral element of war, ingrained in operational art's fibers, binds timeless reality to the human prosecution of armed conflict.

This critical skill is called operational art because it is just that—art. It requires human creativity and innovation in the development of concrete ideas derived from the analysis and synthesis of dynamic, abstract problems of geography, sociology, mathematics, psychology, and most importantly chance. It requires detailed thought, reasoned deductions, and a rational weighing of ends, ways, means, and risk. It is a human endeavor, assisted by man-made inventions but promulgated by uniquely human skill and effort. It also is the method by which the human participant grasps the phenomenon of armed conflict which defies stereotypes and definitive rules--the moral element of war, of which the human element is a major component.

The human element in warfare and operational art has always been dominant. As Henry Eccles observed in 1965,

“The whole structure of military concepts and philosophy comes to a focus in the art of military decision. Military character and military leadership here meet their greatest test. All the skills and techniques, all the weapons created by science and ingenuity are wasted if the decisions as to their employment are not wisely made.”⁶

Like chance and friction, the human element is a component of the moral element of war and is ubiquitous to warfare. Its importance is too often understated or ignored.

“Nothing is more important to leaders than understanding the psychology of combat . . . ,”

wrote Lieutenant General (Retired) L. D. Holder, “human strengths and weakness on both sides of a conflict determine the limits of the possible and the extent of success.”⁷

However, current and impending Joint and Army doctrine and published military dialogue gloss over the moral element and paint operational art as a skill that is mastered mainly through the application of universal principles.⁸ With technology’s assistance, this viewpoint professes, operational art is practiced in accordance with certain rigid steps while using the obligatory doctrinal terms. By this reasoning, an officer following a manual’s prescribed lists whether in peace, conflict, or war, and using tactical forces to achieve theater or national objectives, is a practitioner of the operational art. This commonly accepted view discounts the fact that a monkey blowing into a trumpet is not a musician, and that manning checkpoints or distributing food to hurricane victims is not war. This paper’s premise is that the present institutional environment and most current and forthcoming doctrine disregard and dilute the enduring importance of—and relationship between—operational art and the moral element of war.

The future does not bode well for operational art purists. The ultimate worst-case danger in this bastardization of operational art and neglect of its constant component, the moral element, is that its meaning and utility will be continually eroded until replaced by a non-thinking automation system. Disaster in combat will follow. More realistically, in the near-term senior leaders and high-level staff planners will be ignorant of the inseparable link between the moral element of war and the conduct of operations and discount the human skills required in true operational art. Our leaders and key planners will be expert technicians and not operational artists. Operations will become rigid, solutions to problems predictable and vulnerable, and the final result predetermined.

The vital importance of a senior commander or staff officer's competence in operational art cannot be proven empirically. The same is true for the relationship between operational art and the moral element of war. However, this paper will establish the close linkage between operational art and the moral element of war through the definition of each, a description of their relationship to the environment of war, examples of their importance from recent military history, and a deduction of their future role based upon current and projected technological development, doctrine, and organization in the U. S. Army.

Specifically, this paper will discuss the origins and context of modern operational art in the U. S. Army; the components and theoretical constructs of the moral element of war and their relationship to war in general; the ramifications of technological advancements and the alleged, current Revolution in Military Affairs (RMA) on operational art; the enduring relationship between the moral element of war and operational art and their role and significance in current Army and Joint operations doctrine; and the professional development and nurturing of operational art in commanders and staff officers.

Operational art is a distinct human process, time-proven to be void of rigid pre-determinants and maxims, of which the moral element of war is an enduring component. Wise and efficient institutional change for the better is a good thing; neglect of our profession's core skill is folly and shameful. It is both the Army and the individual officer's responsibility to ensure that full understanding of our profession's greatest challenge is maintained. The first step toward meeting this demand is a functional understanding of the origins, characteristics, and complexities of operational art.

II. OPERATIONAL ART DYNAMICS

“Real learning of the art will take place only through inch-wide, mile-deep study.”⁹

Entire published works struggle with defining operational art and delineating its origins. The truth in each of these quests probably lies within a median of possibilities over time and location, since the multitude of theories on operational art's characteristics and functions are as varied as the armies and leaders that they anoint with the honor of “discovery.” Yet, the answers to modern questions concerning operational art remain contentious and unresolved. Is operational art truly an art, or is it a combination of art and science? Can automation perform some of the traditional operational art functions? Is operational art welded to the operational level of war? Is operational art exclusive to combat operations, or is it also used in planning and executing non-combat operations? It is indeed ironic that the activity which—it is generally agreed upon—enables a nation to achieve its strategic goals with military force is so universally unclear and disagreed upon in literature and doctrine.

As with most aspects of warfare, neither the advanced study nor a basic comprehension of operational art can be undertaken without mentally incorporating all of the factors which influence its dynamics. Society, governments, armed forces, the human participant and war in its entirety all must be considered. Particularly in the modern era, the levels of war, the relationship of the armed forces to the state, the conduct of war, the enduring nature of war, and military theory all affect the arguments, discussion, and doctrine pertaining to operational art.

This paper will not answer all of the questions listed above, but it will answer the most important question and apply it to today's Army and future combat operations—What is operational art? This section defines operational art in the author's terms, discusses its predominant characteristics through an emphasis on classical and modern military theory and military history, and describes its current doctrinal context.

OPERATIONAL ART DEFINED

The term "operational art" begs definition from at least three perspectives. First, what is meant by "operational?" Secondly, what is "art?" And finally, what does the phrase mean when the two are combined? Dictionary definitions offer no definitive conclusions; rather, the answers to these questions lie in the annals of military history, theory, and practice, upon which our doctrine is based. As one author astutely pointed out: "The operational level of war is not something that can be easily understood. It demands hard reflection and study. Warfare at the operational level . . . has characteristics of both art and science . . . the art form is indefinite, inexact, and poses a greater need for creativity and continuing study."¹⁰

The pursuit of definitive and comprehensive explanations for tactics and strategy is far beyond the scope of this paper. However, a basic understanding of the two is necessary in order to understand the operational level of war, and thus operational art, because the three are inextricably linked. Without one, there would not be a functional necessity for the operational level. In describing operational art's relationship to strategy, one author wrote:

"A strategic orientation must exist, however derivatively, if the operational commander is to understand what he is to achieve at his level before he formulates

a concept of the campaign and applies his own resources. He will normally receive this orientation by looking for a military outcome at his operational echelon that fits the next higher commander's concept and the intent of the commander two echelons up. This approach to the strategic interface is the basis for defining the operational level of war, since without strategic guidance there would be no operational art."¹¹

The operational level of war cannot completely be viewed in isolation, nor can operational art be dissected without consideration of tactics and strategy. They are the common bond of operational art's functionality.¹²

"Operational" refers to the operational level of war, one part of the modern triumvirate of war. The other two components of the triumvirate are the tactical level and the strategic level of war. At the low end of the spectrum, tactics and the tactical level involve the employment of small units, generally corps-sized and smaller, which fight actions and battles as part of a major operation or campaign. At the upper end, strategy is the overarching national vision and concept for the use of force to accomplish defined national objectives, as established by the National Command Authority (NCA).¹³

Recently, strategy has become broader to encompass "theater strategy," in which a theater commander-in-chief (CINC) establishes theater-specific visions and concepts for the use of force in consonance with the NCA strategy, in order to meet NCA-directed theater objectives. In general terms, the operational level of war is the connecting link between tactics and strategy.

The operational level of war is the linkage (ways) between strategic goals (ends) and the military forces which accomplish them (means). In its pure form, it does not pertain to a specific echelon of command or a particular size of unit. It is in essence a level of "perspective," in which strategic goals are accomplished by a military force,

regardless of its size.¹⁴ Conceivably then, a rifle platoon, an aviation brigade, a special forces group, or an armored division could be operational-level units, as long as they as a whole were being employed as a separate entity to accomplish a specific strategic objective. As stated in FM 100-7, “the intended purpose—not the level of command—is the primary determinant of whether a force functions at the operational level.”¹⁵ A unit is functioning at the operational level of war, then, if it is being directly employed to accomplish strategic objectives.

Operational art pertains to the activities undertaken to perform military action at the operational level of war. Art, in the realm of war, is the human activity affecting the employment of military force. According to one author, war itself is the “art of combining combat force, mobility, and human psychology to attain the ultimate objective at the least cost in life.”¹⁶ It is more than a battlefield commander giving orders, but is the entire process of thought, problem solving, conceptualization, and execution that occurs when faced with a requirement to employ military forces in war. It involves creativity, imagination, intuition, skill, analytical synthesis, and decisiveness. Most importantly, military art requires an understanding, even mastery, of the medium—war and nature—over which the artist must perform. The moral element of war, described later in this paper, is the canvas upon which the military artist must create masterpieces.¹⁷

An artist is one who practices art. Or, as the Webster’s Dictionary defines it, “one who professes and practices an art in which conception and execution are governed by imagination and taste.” In order to be a military artist, therefore, one must be imaginative, creative, and knowledgeable of the medium—war.

Defined by FM 100-5, *Operations*, operational art is the “skillful employment of military forces to attain strategic and/or operational objectives in a theater of operations through the design, organization, integration, and conduct of theater strategies, campaigns, major operations, and battles.”¹⁸ This definition is close to accurate, but disregards the importance of planning and the true medium of operational art—war and combat. It does not emphasize the individual human talent required to creatively grapple with all of war’s complexities and uncertainties. As previously stated above, a working definition of operational art for this paper which most accurately describes its function is as follows: *Operational art is the moral and physical planning and employment of tactical military forces in combat through campaigns, major operations, and battles to accomplish certain theater-level (operational) objectives, the achievement of which enable fulfillment of strategic (theater or national) goals and a previously defined strategic end-state.*

ORIGINS OF OPERATIONAL ART

The various components and characteristics of what we now acknowledge to be operational art, and to some extent the operational level of war, have existed since the inception of modern warfare. However, most military theorists and historians establish the nineteenth century as the centerpiece of operational art’s roots, either with the Napoleonic Wars, the American Civil War, or the campaigns of Prussian General Helmuth von Moltke (the elder). The renowned military theorists Carl von Clausewitz and Baron Henri Jomini, nurtured and seasoned to war during Napoleon Bonaparte’s reign, established operational

art's theoretical foundation in their writings following Napoleon's downfall, lending some credence to operational art's origins with the Napoleonic Wars.¹⁹

There is no debate that Napoleon Bonaparte changed the face of Europe socially, economically, and militarily. Operational art, soon to be realized as one of modern warfare's most important components, likewise emerged in Europe in the early nineteenth century and indeed flourished under Napoleon's genius. This "birth" of operational art did not materialize immediately, but was the result of a combination of societal factors and the innate ability of Napoleon.

According to one modern military theorist, operational art was manifested into warfare because of the linkage of three factors: technology, national interest, and debt.²⁰ In very general terms, it emerged because large armies with improved available technologies operating under more efficient organizations and tactics provided national and military leaders with better options for their employment. In late eighteenth century Europe, and France in particular, technology and national interest, combined with the nation-state's ability to pay for each and its willingness to finance present needs with future debt, melded together at a time when French society was revolutionary and ripe for change. The dynamics for a complete transformation were present, and only required a spark in order to blaze into uncharted fruition.

Prior to Napoleon's era, armies were limited in the scope of their capabilities and operations. The conduct of campaigns was seasonal, dependent upon favorable weather, and based upon the ability of large bodies of men to sustain themselves. Supplies were limited—they had to be carried on horseback or with the individual soldier. The supply base of the host country determined the feasibility and duration of battle. The nations'

economies were largely localized and depended upon the common citizen's labor—that of the soldier—in order to reap the harvest. This limited the opportunities for waging war to the non-harvest periods of the year when the preponderance of manpower was available. Rich countries often fought their wars with “soldiers for hire,” predominantly mercenaries who lived to fight and had allegiance only to the paymaster. In short, warfare was mainly of limited scope, of short duration, and fought with limited resources. All of this was to change in a substantial form after Napoleon came to power.

Militarily, Napoleon viewed war on a large scale and utilized his armies as an extension of his governmental power. To him, foreign policy was within the realm of war and battles were the means whereby his goals could be achieved. With a definitive political objective in mind, he combined strong-arm diplomacy with a series of military actions in order to achieve his objectives. Soldiers were no longer a scarce resource. The mandatory conscription of the French Republic provided a seemingly limitless manpower pool while others maintained harvest stocks in the homeland. Foraging while campaigning became his *modus operandi* and enabled long-duration operations at great distances from the French frontier. His armies were reorganized to facilitate the handling of the large troop masses and rudimentary training improved their competencies. This enabled him to move, maneuver, and fight large bodies of men at different places and times but with complementary purposes of employment.

Military action was well thought out and the maneuver of his armed forces were conceived in order to accomplish his national objectives through consecutive battles.²¹ War was not the by-product of foreign policy and a derivative of national strategy—it was his foreign policy and drove the direction of his national strategy. Thus, Napoleon used

his armed forces to fight battles and campaigns which were precisely designed to achieve, incrementally or decisively, his strategic objectives.

One campaign in particular preeminently highlights Napoleon's operational mastery and typifies his style of warfare. The 1805 Ulm campaign is probably the most widely known and most reflective example of his innate operational and strategic genius and bold methods of warfare. In *On War*, Clausewitz wrote that boldness is a "noble capacity to rise above the most menacing dangers."²² At thirty-six years old and as the newly self-coronated Emperor of France, Napoleon would aptly demonstrate this "noble capacity" and forever astound students of military history by his bold feats and operational brilliance in this campaign.

Early in 1805, Napoleon's *Grand Armée* of 210,000 men was positioned along the English Channel coast while he pondered an invasion of Great Britain. Concurrently, the Allies of the Third Coalition (Great Britain, Russia, and Austria) planned an offensive to defeat him decisively and restore Europe to the territorial balance of 1789. To accomplish the Coalition's purpose, the Austrians sent 95,000 soldiers into Italy, 23,000 into the Tyrol, and 70,000 into Bavaria. The Russians deployed 95,000 men which followed the Austrian force into Bavaria. The Allies hoped to defeat Napoleon first in northern Italy (where they incorrectly believed his main effort would be), and then destroy him with the Allied forces moving from Bavaria towards Strasbourg. Napoleon's solution to this strategic threat was typical and indicative of his military boldness and mastery of operational art. He decided to seize the initiative and thus conceptualized a campaign in which he would strike first by defeating the Austrians in Bavaria along the Danube to separate them from the Russians, and then inflict a crushing blow on the Russians as they

advanced towards his army.²³ The campaigns' results, he believed, would cause the Coalition's collapse and increase his strength in central Europe.

Napoleon took action immediately upon learning of the Coalition's plans. He first moved his *Grand Armée* to the Rhine River²⁴, sent 50,000 men to Italy in a strategic fixing action to hold the Austrians in that theater, and positioned 30,000 men in northern France as a strategic reserve to guard against a possible British invasion. He issued final orders to his Army on August 26th and on September 24th it crossed the Rhine, moved east, and began the strategic envelopment that would seal the fate of the Coalition's war aims.²⁵

Napoleon sent one corps with part of a cavalry reserve (a total of 40,000 men) boldly into the Black Forest toward Freundstadt to deceive the Austrian commander General Mack (with Archduke Ferdinand) and draw his troops to the west. Using extremely effective cavalry screens and speed as security, he marched the remainder of the army east and north of the enemy at a lightning pace of 30 kilometers per day. On October 2nd Napoleon wheeled his massive army to the south and began crossing the Danube on the night of the 6th.²⁶ Mack was now generally aware of the broad developments of Napoleon's strategic maneuver, but was incapable of acting. In one historian's words, "the rabbit remained hypnotized by the snake."²⁷

By October 20th Napoleon's *Grand Armée* had completely enveloped the Austrian Army in Bavaria. His army had attrited the Austrian force by 20,000 men, cut off their retreat in all directions, and severed their lines of communication. The Russian army was still several days away to the east, and to assist the Austrians they would have had to fight through two French corps Napoleon dispatched to Munich to meet that contingency. Surrounded and thoroughly demoralized in Ulm, General Mack surrendered his 27,000

remaining men on October 21st. The remainder of the Austrians who were able to escape fled to the east.²⁸ He completed the destruction of the Coalition in December at the battle of Austerlitz.

In a letter to his wife Josephine on October 19th, Napoleon wrote "I have accomplished my object; I have destroyed the Austrian army by simple marching."²⁹ Napoleon's "simple marching," combined with his bold strategic planning and operational execution, completely demoralized his enemy by the time his *Grand Armée* reached the Danube.³⁰ His campaign targeted the moral and physical attributes of his enemies which resulted in complementary, overwhelming results. Napoleon's boldness, strategic vision, and operational maneuver were the decisive factors in his victory, and the brilliant twenty-six day Ulm campaign clearly demonstrated many of operational art's components.

Contrary opinions cite other military greats as originators of operational art. One intellectual body argues that Prussian General Helmuth von Moltke was the forefather of operational artists. "He understood that the strategy for gaining the political objective would be controlled by the king, but as Chief of the General Staff, Moltke could influence the operational objective," wrote one author. "Moreover," he continued:

"... by introducing the terms 'operational concept' and 'operational objective,' Moltke distinguished the actual conduct of the campaign from its purpose. In the planning and conduct of this campaign, he began to delineate the strategic and operational levels of war."³¹

Moltke is also claimed to have been the first to formally recognize the operational level of war, through his concept of "operational direction." Assisted by improvements in telegraph technology, operational direction was a method of achieving strategic goals by

the destruction of the enemy army, carried out through the flexible employment of military forces in the field.³²

One prominent modern military theorist, Dr. James Schneider, cites General Ulysses S. Grant as the first to practice operational art. Schneider writes that:

“The essence of operational art, distributed free maneuver, historically arose as a result of certain subsidiary characteristics that will also tend to dominate any future conduct of operations. The emergence of operational art necessarily followed from a changing relationship between the Army and the territory in which it operated.”³³

He continued: “The occupation of the enemy's territory and the concomitant destruction of his army gave rise to the contingent characteristics of distributed free maneuver. We find these discriminators present for the first time in Ulysses S. Grant's campaign of 1864.”³⁴

The important point here is that operational art as a distinct component of warfare came to fruition in the nineteenth century. It arose out of necessity in order to manage the increasing complexity of modern war and to more efficiently achieve favorable outcomes in war through the linking of military actions to political objectives. From its inception, it recognized that war's moral and physical elements were fraternally bonded, and that combat operations must incorporate both in order to succeed. Nothing in today's world has changed this fact.

In the United States, operational art and the operational level of war reached their zenith in the campaigns of Generals George S. Patton and Douglas MacArthur in World War II, and finally appeared to wither after MacArthur's amphibious landing at Inchon during the Korean War.³⁵ One author blithely stated that “the operational performance of

American arms since MacArthur's brilliant stroke at Inchon has been, to put it mildly, less than impressive."³⁶

Although re-emerged in very basic terms in U. S. Army doctrine with the 1982 version of FM 100-5, operational art was solidified in our doctrine in the 1986 version of FM 100-5. Today, it is less emphasized and more misunderstood than should be minimally acceptable. In fact, one of the principal authors of the 1982 and 1986 versions of FM 100-5 wrote that, "the adoption of operational art may be the most important change in Army doctrine since World War II." "Yet," he added, "the addition of the operational level of war as a separate field of military activity, has generated relatively little discussion although it certainly represents a distinct departure from the familiar."³⁷

Modern neglect of operational art and the study of the operational level of war is probably the result of the "revolution in military affairs" debate and the excitement over increasingly sophisticated and lethal technologies. Only one Army school, the School of Advanced Military Studies, purports to train and educate officers in the operational level, and its graduates subsequently are labeled as "jedi knights" or in even less flattering terms. What should be the norm has become the exception. What is apparent is that the most blatant omissions in today's understanding of operational art are the timeless lessons from military history and the neglect of operational art's integral component—the moral element of war.

CURRENT DOCTRINAL CONTEXT

The Army's premier operations manual states that doctrine is the "statement of how America's Army, as part of a joint team, intends to conduct war . . . It is the

condensed expression of the Army's fundamental approach to fighting . . . ³⁸ As such, FM 100-5 correctly expresses that:

"Never static, always dynamic, the Army's doctrine is firmly rooted in the realities of current capabilities. At the same time, it reaches out with a measure of confidence to the future. Doctrine captures the lessons of past wars, reflects the nature of war and conflict in its own time, and anticipates the intellectual and technological developments that will bring victory now and in the future."³⁹

This 1993 version of FM 100-5, *Operations*, soon to be replaced by a 1998 version now in final draft form, acceptably addresses most of operational art's important elements and characteristics.

Discussions of the levels of war early in the manual and their relationship to national security policy and strategy clearly depict the role of the operational level of war to our wartime success. "Fundamental to the Army's doctrine is an appreciation of the levels of war . . . that define the entire range of military operations and the links between tactical actions and strategic objectives," it states.⁴⁰ Strategy—the art and science of employing armed forces with the other instruments of national power to secure strategic goals, is realized through the operational level of war, in which joint and/or combined operational forces within a theater of operations perform subordinate campaigns and major operations in order to accomplish strategic objectives. Again, this doctrine stresses that the intended purpose of the force utilization, not force size or level of command, determines whether a unit is functioning at the operational level.⁴¹

The current FM 100-5 also prominently discusses the role of operational art and reinforces its critical utility. As previously discussed, it defines operational art as "the skillful employment of military forces to attain strategic and/or operational objectives within a theater through the design, organization, integration, and conduct of theater

strategies, campaigns, major operations, and battles.” It stresses that operational art *translates* strategy into operational design, and determines when, where, and for what purpose our forces will fight. Finally, our doctrine states that “operational art requires broad vision, the ability to anticipate, a careful understanding of the relationship of means to ends, and [an] understanding of the inherent risks that are under them.”⁴²

To the detriment of total clarity the manual does not directly stress the close relationship between the moral element of war and operational art. It also boldly states that operational art pertains to both combat and non-combat operations (operations other than war), which is a deliberate extension of the truth to accommodate current mission realities. Although the planning and execution of “operations other than war,” such as a hurricane relief operation, is no easy task, it can hardly be described as operational art. However, the current FM 100-5 deals with operational art more realistically than current joint doctrine and our own projected operations doctrine.

Joint doctrine, specifically Joint Publication 3-0, generalizes the process of operational art, simplifies its mastery, and bastardizes theoretical concepts. Joint Pub 3-0 states that operational art is “*the use of military force to achieve strategic goals [italics mine].*” It “is practiced not only by [Joint Force Commanders], but also by their senior staff officers and subordinate commanders.” To summarize, Joint operational art focuses primarily on the synchronization of land, sea, and air forces, purportedly through the usage of certain key terms.⁴³

Although this manual is indeed merely a guide for joint commanders and their staffs, it gives the strong impression that the operational level of war and operational art are easily understood subjects which can be learned and mastered as easily as tactical

subjects. This “checklist” approach, using current buzzwords such as “center of gravity,” “decisive point,” “synergy,” and of course “leverage,” dilutes the essence of operational art’s core proficiencies—knowledge of war, history and their associated human applications. It also incorrectly applies theoretical concepts to explain fundamental operational tenets, adding further confusion and ambiguity to the efforts of military professionals. Joint doctrine is scientifically slanted, politically influenced, and out of necessity—generalized to the point of inadequacy.

Directly in line with these critical observations is the final draft form of FM 100-5’s updated version, due for release in 1998. Although still not doctrine—yet—this version refers often to “The Art of Operations” (vice operational art), which it meekly describes as “the determined, innovative *search* for ways to dominate every aspect of a situation or adversary” (*italics mine*).⁴⁴ It later states that operational art “*helps* commanders use resources efficiently and effectively to achieve strategic objectives through the design, organization, integration, and conduct of theater strategies, campaigns, major operations, and battles” (*italics mine*).⁴⁵ It is heavy on lists, characteristics, functions, and patterns, but light on specificity in regard to operational art and its role in Army combat operations. In view of “jointness,” the “new world order,” and technology, operational art’s pendulum of institutional importance appears to be swinging the other way.

The operational level of war and operational art are a part of Army doctrine. Doctrine ebbs and flows as history evolves, societies change, armies learn, and technologies are developed. Out of date concepts, invalid theories, ineffective policies, and misinterpreted events have no place in good doctrine and should rightly be discarded

and learned from. Likewise, valid principles—particularly the bedrock principles of a profession—require continual reemphasis and level prominence. As the next section describes, the conduct of war is fluid and subject to constant change and evolution. Certain elements within war do not change, however, and the moral element of war is foremost among these. Operational art, though becoming increasingly de-emphasized and undervalued in doctrine, is strongly rooted in the moral element of war and remains applicable and vital in modern combat operations. As one author accurately pointed out:

“[operational art] . . . is the expertise required of a leader and his staff to fight successfully at the campaign level of war. . . . [it] involves the skillful translation of strategic goals into achievable military objectives and the subsequent planning, positioning, and maneuvering of forces to achieve those objectives. It is the bringing, normally, of field armies and larger forces to bear at the appropriate time and place on the battlefield to impose our will on the enemy [it] is the link between strategy and fighting battles. It is what gives substance to strategy and meaning to the loss of life and materiel inevitable on the battlefield. . . . [it] is what wins wars and is what the profession of arms is all about. *It is an art the citizens of our country pay us, in the interest of national security, to apply with skill in wartime* (italics mine).”⁴⁶

III. THE MORAL ELEMENT OF WAR

“In peace, the moral element seldom comes to be of value; in war it forms the precondition of every victory, the true value of a unit.”⁴⁷

Much debate and philosophical discussion in American military and academic circles today focuses on whether or not we are entering into, in the midst of, or departing from, a “Revolution in Military Affairs” (RMA). This speculative fog masks an important component of future warfare⁴⁸—the moral element of war. Regardless of the inherent arguments, changes, and any definition or innovations of the so-called RMA, the moral element of war will remain unchanged and a constant in warfare and the operational art for the foreseeable future. This integral component is often over-looked by forward-thinking optimists, force developers, doctrine writers, and technologists when they proselytize about the profound changes that the future holds for warfare.

Although our Army as an institution is in the midst of the RMA debate and undoubted substantial change, the enduring relationship between the human participants and the conduct of war ensures that the moral element will remain one of war’s dominant and constant elements. This realization is important to our Army’s future because of our increasing tendency to rely too heavily on technology to accomplish our goals, while slighting the moral element’s importance, particularly in its relationship to operational art.

Technology alone can not win a war. Human interaction and imposition remain vital determinants to the efficient application of that technology. As we enthusiastically rush forward to the twenty-first century battlefield with a multitude of unanswered questions, we should look to the past to capture and benefit from truths that military

history offers. Indeed, history may not be able to prove much of anything. It does, however, demonstrate the relationship between human actors and circumstance, between cause and effect, and between dynamic change and its results. It provides the firm foundation for military theory and doctrine, without which they would become hollow ruminations.⁴⁹ Reflected in history's annals are certain constants, of which life's uncertainty, warfare's confusion, and the human participant's nature and character are the most significant.

The moral element of war, which consists of those dynamic forces encompassing human performance, emotion, motivation, group performance, leadership, and intangible natural forces during war,⁵⁰ will remain a vital component of war and unchanged in the future for two essential reasons. First, the true nature of war—the essence of war itself, not the manner in which it is conducted—will not substantially change, and thus its components retain their validity. Secondly, human beings and human nature will not change. Future war will be conducted by people either controlling or benefiting from highly advanced, technological devices and weapon systems. This means that individual actions, human imperfections, performance thresholds, and varying personalities will still influence and determine a conflict's outcome.

The moral element of war cannot be analyzed or discussed divorced from war as a whole. Moreover, the terms *war*, *conduct of war*, *nature of war*, *moral element of war*, and *RMA*, are characteristically abstract and host to numerous definitions which far exceed the scope of this paper. Nevertheless, a very basic working understanding of their meanings and relationships to one another is necessary in order to understand the part's (the moral element of war) relationship to the whole (war).

Prussian General Helmuth von Moltke, who today would probably be shunned by segments of the military community because he generally opposed the idea that systems could replace human talent, defined war as “the violent action of nations to attain or maintain purposes of state.”⁵¹ This definition remains convincing, as do Carl von Clausewitz’ trademark interpretations that “war is the continuation of policy by other means,”⁵² and “war is an act of force intended to compel our enemy to do our will.”⁵³ Clausewitz also recognized that the art of war could not be exclusively considered a science, as it encompassed “living and moral forces.”⁵⁴ He recognized that human participation in war would forever make it an unpredictable, sometimes illogical, and imperfect endeavor. War, then, is aggression of physical and non-physical means between at least two parties to accomplish a political purpose when other recourses have failed.

The *conduct of war* is a relatively simple concept to understand, and pertains to the manner in which a party carries out the physical and non-physical acts in war. In other words, it is war’s *means* to accomplish the purpose. It encompasses the equipment, weapons, doctrine, and types of forces employed in war. Technology is a key part of the conduct of war, in that it serves as the basis from which the other components are most often derived and changed.

The definition and common understanding of what is meant by the *nature of war* is more speculative and contested. However, for the purposes of this discussion, the nature of war is composed of warfare’s enduring characteristics, of which the most prominent are the complicated interaction of political entities and goals, time, cultural factors, the participants’ military skills and capabilities, and the various moral elements (human performance, emotion, motivation, group performance, leadership, and intangible natural

forces) which constantly interact across war's entire spectrum.⁵⁵ Each of the elements affects the others and either directly or indirectly affects the conduct of war (see the appendix).

The *moral element* is clearly a component of the overall nature of war. Military theorists and practitioners of the military art have long espoused the importance and relative permanence of the moral element of war. Clausewitz discussed the moral element by describing the nature of war as the realm of danger, physical exertion and suffering, uncertainty, and chance.⁵⁶ He further asserted that moral elements "constitute the spirit that permeates war as a whole."⁵⁷ Napoleon Bonaparte stated that "the moral is to the physical as three is to one," and strongly believed that moral force—not physical force—produced victory.⁵⁸ And one of America's greatest combat leaders, General George S. Patton, Jr., said prior to World War I that: "Wars may be fought with weapons but they are won by men. It is the spirit of the men who follow and the man who leads that gains the victory."⁵⁹ The 1993 version of FM 100-5 echoes this humanistic theme by stating that warfare is a "test of the soldier's will, courage, endurance, and skill."⁶⁰

The French soldier and theorist Ardant du Picq aptly described the true nature of war as a uniquely human endeavor. He believed that human performance and emotions, most importantly fear, dominated the conduct and end result of all engagements, battles and campaigns. He recognized the impact of technological advances on the conduct of war, but disregarded the effect of technology on the moral element. "The art of war is subjected to many modifications by industrial and scientific progress," he wrote, "but one thing does not change, the heart of man . . . In all matters which pertain to an army, organization, discipline and tactics, the human heart in the supreme moment of battle is the

basic factor.”⁶¹ In agreement with du Picq, one American military author wrote that “the nature of man will dominate the battlefield as long as conventional weapons prevail.”⁶²

Thus, the moral element of war consists of those dynamic forces encompassing human performance, emotion, motivation, group performance, leadership, and intangible natural forces during war. Technological and intellectual change and their eventual battlefield application are merely means to an end. The moral element, specifically the human participant therein, transcends the entire spectrum of war and ultimately enables the means to achieve the end. Advancements are useless without skilled people who both understand the nature of war and are trained in the conduct of war.

The meaning of a RMA is one of today’s most hotly debated topics. One commonly accepted definition describes a RMA as “*a major change in the nature of warfare* brought about by the innovative application of technologies, which combined with dramatic changes in military doctrine, and operational concepts, fundamentally alters the character and conduct of operations (italics mine).”⁶³ Other definitions of a RMA include “. . . a true RMA involves the synergy among new technology, doctrinal adaptation, and organizational adaptation;”⁶⁴ and one which states that an RMA occurs when “emerging technologies are applied to modern military systems, whose uses are optimized via custom-tailored operational concepts and force structures, resulting in vast increases in military effectiveness.”⁶⁵

The fault with these and most other RMA definitions is their vain presupposition that technological advancement, application, and doctrinal change comprehensively transform the true nature of war. True, some elements of the nature of war may be affected (time and the participants’ skills and capabilities, predominantly) and will cause

the conduct of war to change. But the nature of war—particularly its moral element—when viewed in the context of a constant component of war, remains mostly as it has existed for centuries.

History demonstrates that even the most profound changes in technology, thought and doctrine do not change the true nature of war. Reasoned analysis reflects that the future will be no different in this regard. In the most recent past, three military-technological innovations from the steam and industrial revolutions and the major doctrinal change of post-World War I armies support the supposition that the nature of war, and the ubiquity of the moral element, remain constant. The advent of the railroad, the machinegun, the tank, and mobile warfare doctrine all had substantial and long-lasting impacts on the conduct of war, but limited impact on changing the true nature of war. In each case, did the innovation or change greatly affect the true nature of war? Was the moral element of war rendered inconsequential in its interaction between the nature of war and the conduct of war? The answer to each of these questions is “no.”

Railroads and train transportation drastically changed the way that armies could mobilize, move, maneuver, and supply themselves. As first demonstrated in the American Civil War and in Europe in the 1860s/70s, the railroad enabled commanders to move and reposition forces relatively swiftly while simultaneously ensuring that supplies could move either with them or to them at the same rate. This substantially changed the manner in which campaigns and wars were fought. Strategy and the operational art were revitalized as military leaders had options available to them limited only by control systems, the number of engines and rail cars, and the miles of available track. In the conduct of war,

capabilities increased, strategy became more flexible, and political decisions became increasingly complex.

The moral element remained critical during this period. Leaders had to plan and prepare to react to their enemy's use of the railroad, defend their own railroad lines and hard assets, and increase staff proficiency in order to maximize the railroad's capability. Operations were conceived and conducted which depended upon efficient use of the railroad, and thus were vulnerable to numerous unforeseen calamities—blown bridges, unserviceable track, broken engines, limited fuel, unsynchronized timelines, and competition for the use of finite resources. These and many more problems posed new challenges for military commanders and offset many of the railroad's advantages. The rewards were potentially greater, but the risks were multiplied as well. At the heart of the change was the moral element of war's continued importance. More friction and unplanned events were inevitable. Leaders had to be wiser, more prudent, and more flexible to succeed and maximize the capabilities of the new technology available to them.

The machinegun's development and emergence in the mid-1800s remained inconsequential to warfare until most modern armies employed it in World War I. Once used on a large scale, it had devastating effects at the tactical and even operational level. It enabled ground forces to dominate the battlefield from a defensive posture and caused armies to develop means to counter its awesome capabilities against dismounted soldiers. The machinegun affected the conduct of war in four major ways: it increased tactical defensive capabilities; it gave birth to technological development to counter its effects; it caused the formation of new organizational structures; and it necessitated offensive and defensive doctrinal change at the tactical level of war.

The machinegun's impact on the conduct of war simultaneously increased the importance of the moral element of war. At the soldier and small-unit level, the machinegun became a weapon to be either feared or adored, depending on whether you were attacking one or using one in a defense. Its awesome firepower and horrific sounds penetrated to the deepest recesses of human emotion. A renewed type of fear, or courage, was again part of the nature of war. Capitalizing on this capability to demoralize and butcher dismounted soldiers required innovative tactical thinking and indiscriminate application. Likewise and more importantly, overcoming the fear and physical challenges that the machinegun posed to dismounted infantry required courage of the highest order, extraordinary tactical solutions, and resolute leadership. None of the moral elements of war were weakened or rendered obsolete. All of the components remained important and not only affected the machinegun's use, but also the conduct of the war.

The tank was born of necessity (one of which was to counter the defensive superiority of the machine gun) during World War I and enabled soldiers to move tactically while protected by steel. It afforded commanders a strong, mobile, virtually all-terrain punch which could break through most static defenses. The tank caused post-war theorists to revisit standing doctrine, and the result significantly changed the doctrine and conduct of war prior to and during World War II. Major equipment, organization, and weapons initiatives were the result of the tank's emergence on the battlefield.

The tank's development and use did not decrease the importance of the moral element of war. Like the machinegun, the tank had a great impact on the human participant's emotions and motivation. It was feared because of its sheer size and appearance and gave confidence to the dismounted infantry who accompanied it into

battle. Its employment required a substantial increase in the human participant's proficiency. Even World War I tank warfare demanded more staff coordination, greater synchronization of the combat arms during the battle, more efficient command and control means, a massive logistical effort, and determined, bold soldiers to lead the forces and operate the machines.

Intangible natural forces also gained greater importance with the tank's employment. Severe wet weather, rough terrain, and mechanical malfunctions could instantly stop an attack's momentum. Limited visibility could help either the attacker or the defender, but nevertheless diminished the tank's actual effectiveness. Most importantly, the tank greater emphasis to be placed on the moral element of war because of its potential to strike at the most vulnerable part of an enemy's defense—the soldier's psyche.

The mobile warfare doctrine which arose from World War I's lessons learned and technology set the stage for the conduct of war in World War II. This doctrine, which was essentially adopted in some form by all of the war's major powers, dictated that fast, strong, armored forces, supported by mobile artillery and attack aircraft, would penetrate enemy defenses and bypass strong points in order to wreak havoc deep in the rear of the defending force. This doctrine not only impacted upon the way that armies fought the war, but also substantially affected the development and acquisition of new equipment to meet the doctrine's demands.

The true aim of this mobile armored warfare was breaking the enemy's will to fight. The objective was to apply overwhelming force at the point of attack (usually at an enemy flank or least-protected position) with all available combat assets, followed by

rapid exploitation, in order to completely shock the enemy commander's equilibrium, mental state and reasoning ability.⁶⁶ In essence, the doctrine sought to defeat the enemy not by destroying the majority of his weapon systems and soldiers, but by defeating his mind and causing culmination in his desire to further prosecute the war. The moral element of war not only became more important to the conduct of war, but actually became a focal point for tactical and operational actions.

In the examples cited above, major changes in the *conduct of war* resulted from the application of new equipment, technology, or ideas. Other recent examples include the percussion cap, the telegraph, wireless communication, the bayonet, motor transport, the steam engine, rifled bores, and the breech-loading rifle. When these examples are dissected in the context of today's RMA definitions, they arguably can be considered to have been at least a minor part of a RMA. Even when viewed in the enormity of their importance to warfare's development, however, none of them substantially changed the true *nature of war*. In each case, the nature of war's dynamic elements remained critical factors influencing the conduct of war. The *conduct of war* changed, the overall *nature of war* did not.

Most importantly, the moral element of war remained intact, while its relationship to battlefield success increased proportionally with technological advancement. The military technological advances showed that more lethal weapons, faster weapon platforms, increased strategic and operational options, and a fluid, fast-paced battlefield all required intensive human decision-making, influence, analysis, and leadership in order to reap their potential benefits. Concurrently, the possibility that human error and the moral element could have a detrimental impact on operations also increased. As du Picq wrote

after experiencing first-hand the impact and effects of the railroad and weapons improvements in 1860s Europe:

“Battles, now more than ever, are battles of men, of captains. They always have been in fact, since in the last analysis the execution belongs to the man in ranks. But the influence of the latter on the final result is greater than formerly. From that comes the maxim of today: The battles of men.”⁶⁷

The second major reason the moral element of war will be unchanged by a RMA and continue to be one of warfare's dominant and unchanging forces is that the conduct of future war is dependent upon the interaction between the human participant and the highly advanced, technological devices and weapon systems of the future battlefield. The human participant here is the critical part. We cannot use technologies effectively that are individually or collectively beyond human capability. Regardless of technology's advancement rate, humans will continue to evolve at nature's rate. This means that in our lifetime, the physical and mental capabilities of soldiers and leaders will remain substantially and relatively unchanged. Also important and often overlooked is the fact that war at each level still must be conceptualized, planned, coordinated, and then executed with precision—all distinctly human activities with their accompanying possibilities for greatness or disaster. As one author wrote, “no technology can make up for basic errors in making or implementing strategy.”⁶⁸ The same holds true for operational art.

Advanced technology does not diminish the importance of humans in the conduct of war. Rather, it makes them more important since the military force's success is more dependent upon the correct, timely, and precise application of advanced equipment or technology by the human participants. The Army's emerging doctrine for employing our

advanced technology stresses precision strikes, decisive maneuver, and information dominance. The enabler for these doctrinal initiatives is the maneuver commander at all levels. The commander must be able to look at a "common relevant picture" of combat assets in a given sector or zone, gain accurate situational awareness of his forces and the enemy, account for uncertainty and incidental probabilities, evaluate multiple possible courses of action, make a decision, and then act. This is no easy task, even with the high technology available to him.

General William Hartzog, Commanding General of the U. S. Army Training and Doctrine Command (TRADOC), recently wrote that "if technology is to be truly useful it must enable, not encumber, our people."⁶⁹ Again, technology is merely a means to an end. The enabler of those means is the person at the controls, in addition to the numerous other humans interacting across the spectrum of war. The TRADOC pamphlet entitled "Land Combat in the 21st Century" repeats this theme and emphasizes the vital importance of the soldier, commander, and leader to mission success on the future battlefield.⁷⁰

Furthermore, technology can neither completely organize the disorder of the future battlefield nor clarify all of the inevitable uncertainty. These are tasks for thinking military professionals, trained to act and react with strong will and sound judgment. Competent combat leaders and intelligent soldiers on the ground will continue to be essential for managing the inevitable chaos. "War is a continuous interaction of opposing forces," wrote one author-team,

"which includes a thinking foe capable of considering many options, unpredictable behavior and deception. The entire nature of war is uncertainty; it abides no specific norms, evades precision and ebbs and flows in time and space according to many variables . . . in such an atmosphere, spirit, change, nature and sheer will power often prevail . . ."⁷¹

Properly trained, intelligent, and capable soldiers using available advanced technology are indispensable in alleviating the negative aspects—and capitalizing on the positive aspects—of the moral element of war.

Finally, the moral element of war encompasses the skill, character, intuition, and leadership abilities of commanders and leaders. Any RMA cannot, no matter how vast or dynamic it may be, change the great influence that the commander exerts on the battlefield. New concepts such as “information dominance,” “situational awareness,” and “expanded battle space” may be important factors in future wars, and our current emphasis on training the techniques and art of “battle command” addresses these critical skills. However, similar emphasis on training and emphasis in the operational art is overlooked.

Retired U. S. Army General Frederick Franks was correct when he wrote that “battle command demands more art than precise science.”⁷² This will prove especially relevant in the future, as the commander will have access to massive amounts of near real-time information, can move and maneuver faster than before, and is faced with a fluid and ever-changing battlefield environment. J.F.C. Fuller’s thoughts after World War I seem particularly applicable today, when he wrote that:

“Neither a nation nor an army is a mechanical contrivance, but a living thing, built of flesh and blood and not of iron and steel . . . The more mechanical become the weapons with which we fight, the less mechanical must be the spirit which controls them.”⁷³

Given the importance of the moral element of war to the true nature of war, our Army should strive to ensure that operational-level leaders and their staffs understand its impact on modern multi-dimensional operations. Its presence in all that war entails and its

potential inhibitors and advantages, should be reflected in our training, doctrine, and educational systems. The moral element of war is a critical component of any problem with which an operational artist must grapple and overcome. Unfortunately, the moral element has become the critical forgotten element, and our future combat successes are now predicated on an institutional re-emphasis of its place and prominence in war and operational art.

IV. FUTURE OPERATIONS—OPERATIONAL ART AND THE MORAL ELEMENT OF WAR

“Developing effective specialists in operational art is the work of a lifetime . . . ”⁷⁴

Future war will surely remain a violent clash of wills, full of ambiguity and uncertainty, and fought directly or indirectly by imperfect men.⁷⁵ It will be more complex, more confusing, more fluid, and more lethal. As one author boldly suggests, the improved technologies of the future battlefield may even “merge the three levels of war into a single new structure for the integration of complex air-land-sea combat operations.” There will be the capability, he continues, to “immediately convert tactical success on the battlefield into decisive strategic results.”⁷⁶

Change is inevitable in the conduct of war, however, as technological advances transform in some manner the way in which wars are fought. “Weapons technology is only the hardware of warfare,” wrote one author, “of equal importance is the software which governs its use and which takes many forms.”⁷⁷ In modern history and in future war, the human soldier, the moral element of war, and the practice of operational art are the principal components of this “software.”

Future conflict’s scope and magnitude are unknown. Rational predictions and logical pattern analysis offer the only clues to its probable design. On the more radical predictive end, some maintain that future war will be largely urban and characterized by unorganized bands of quasi-professional soldiers and thugs.⁷⁸ Less radical views merely foresee future conflict involving adversaries fighting more stereotypical, technologically-based battles of great destruction, confusion, and fear.⁷⁹

Probable technological developments, however, reflect that the conduct of future war will be influenced mostly through five trends that will directly affect land combat: the increased lethality and dispersion of weapon systems; increased volume and precision of fires; the integration of advanced technologies; increased mass and effects of munitions; and the improved invisibility and detectability of the belligerents.⁸⁰ Again, the great constants in the midst of these changes are the nature of war and man's role. As one author team wrote concerning future conflict: "The artistic side of war will remain: creativity, intuition, leadership, motivation and decision-making under conditions of limited information. These will never lose their importance, for they describe war's essence."⁸¹

According to emerging doctrine, the Army will meet strategic requirements through the conduct of six "patterns of operations:" force projection, force protection, information dominance, shaping battlespace, decisive operations, and sustainment.⁸² Operationally, the Army will deploy rapidly with robust sustainability and decisive military power. Tactically, combat forces will dominate battlespace through total control of the operation's nature, and tempo, utilizing initiative and relentless momentum to ensure success in these predominantly offensive operations. The operational and tactical goal is destroying the enemy's battlefield coherence through an asymmetric advantage in order to achieve his physical or moral destruction. Of course, success is exploited to complete the victory.⁸³

This future-war blueprint exists in war's predictably unforgiving environment. As with every past armed conflict, possible problems can and will occur at the most inopportune times. Time will forever be uncooperative in contrast to our necessities, units

will become disoriented, leaders will be confused and killed, weather will foil our plans at key decision points, equipment will malfunction, and the largest certainty of them all—a determined, hostile enemy—will attempt to thwart any advantage we gain and simultaneously impose their will upon our force. Revolutionary changes in technology, doctrine, and organization cannot erase these facets of war as constant sources of friction.

Operational art's future role and functionality is more clear, although still professionally and intellectually contested. One theorist recommends that operational art's future understanding is predicated on a practical analysis free from "classical military strategy."⁸⁴ He views the future operational level of war as being one of distributed free maneuver, in which operations are dependent upon the interaction of numerous factors and circumstances. Joint headquarters, logistical depth, a clearly defined war plan with definable strategic aims, a campaign plan which is executed in series of simultaneous and sequential distributed operations, and decentralized command and control are some of the circumstances he cites as notably prominent.⁸⁵ Interestingly, this same author comments that national financing—money, will determine the extent that technology will play in serving the operational needs of national security.⁸⁶

Technology is also not the enemy of operational purists or those who espouse a traditional, historic prediction of future war. In fact, there are almost no limits to the improvements that will assist operational commanders and staffs with the proliferation of available technologies in both weapons and command and control systems. The arguments are never against technology, per se, but in the institutional emphasis placed on them over human ability. As the esteemed historian Michael Howard wrote in 1979,:

“The belief that technology has somehow eliminated the need for operational effectiveness is, in short, no more likely to be valid in the nuclear age than it was in the Second World War. Rather, as in that war, technology is likely to make its greatest contribution to strategy by improving operational weapons systems and the logistical framework that makes their deployment possible. The transformation in weapons technology which is occurring under our eyes with the development of precision-guided munitions suggests that this is exactly what is now happening. The new weapons systems hold out the possibility that operational skills will once more be enabled, as they were in 1940-41, to achieve decisive results, either positive in the attack or negative in the defense.”⁸⁷

This much is certain. Our nation's strategic objectives will be achieved through elements of national power. The military, and the Army particularly, will continue to be a vital determinant of rapid and decisive national success and will, more often than not, be called upon when other options have either failed or are simply infeasible. War, or armed conflict, in some form is inevitable. Tactical forces are the means available to fight wars. Thus, Army commanders will use some method of determining and prosecuting courses of action to meet national objectives with the means—tactical forces—available. Operational art, quite simply, is the process whereby this will be done.

The complexity and lethality of future conflict is also certain. Competent leaders in both command and staff positions, trained and educated to understand war and the operational art, are the sole means of triumphing over adversity in this type of environment. “We must realize that without an underlying operational logic,” wrote L. D. Holder, “even an unbroken string of tactical victories leads nowhere.”⁸⁸ True, the physical sciences and physics of war still retain their importance and cannot be neglected. But total battlefield dominance at the operational level requires leaders, and units—the institution as a whole—to understand and master operational art. Only through this medium can war's

friction and uncertainties be faced with at least some chance of positive outcome for our forces.

Operational art is not a “tool,” it is not confined by checklists, nor is it something that “helps” commanders accomplish something. It is a process, a complex activity, mostly involving human understanding of war’s constants—the components of the moral element. Assisted by technology and knowledge of technical systems, only professionally trained officers, grounded in the moral element of war, can practice true operational art. “Operational art comprehends battle without being concerned with its actual conduct,” wrote Dr. Richard Swain. “Operational art involves the creative use of battle, the threat of battle or the denial of battle to accomplish a particular strategic purpose within a specific context, the most significant part of which is most often the opposing actions of a foe.”⁸⁹ This is uniquely human, and dependent upon an expertise in war, a knowledge of man, and an understanding of that which does not change.

V. CONCLUSION

“What could be more beneficial to the soldier than that the atmosphere he breathes from the first hour he determines on the profession of arms should be purely military; that the traditions of the army should be constantly before him, the campaigns of great generals the groundwork of his daily study, and famous marches or manouevers the commonplaces of his ordinary knowledge?”⁹⁰

Our Army is evolving into a smaller, but more lethal, power-projection digitized force which maximizes our nation's technological superiority. The Army's recent institutional emphasis weighs heavily on technological advancement and its potential for decisive and far-reaching effects. To preclude potential battlefield disasters, we must avoid wearing institutional-blinders that shield us from the true nature of war and lull us into a false sense of security. What has provided us the winning edge throughout our Army's history has been a superiority in the human product and the “soft skill” functions that maximize our technology and positively affect operations within the moral element of war. Doctrine, military education, proficiency in the operational art, leader development, recruitment of quality soldiers, and a genuine combat-focus are the “soft skill” functions which we must concurrently evolve with technology in order to sustain our overall supremacy among the world's armies.

Operational art—the moral and physical planning and employment of tactical military forces in combat through campaigns, major operations, and battles to accomplish certain theater-level objectives, the achievement of which enable fulfillment of strategic goals and a previously defined strategic end-state—is irrevocably linked to the moral element of war. Human performance and capabilities, emotion, motivation, group

performance, leadership, and intangible natural forces all combine dynamically to affect combat operations. They cannot be divorced from operational art.

This critical skill is called operational art because it is just that—art. There is no prescribed formula by which it is exercised, and no checklist can summarize its functions. During the conduct of a campaign, operational art is, rather, “a matter of approximation and constant adjustment.”⁹¹ It requires human creativity and innovation in the development of concrete ideas derived from the analysis and synthesis of dynamic, abstract problems of geography, sociology, mathematics, psychology, and most importantly chance. It requires detailed thought, reasoned deductions, and a lucid vision for success emanating from a rational weighing of ends, ways, means, and risk. It must be promulgated by tactical experts, men seasoned with experiences of modern combat operations and in tactical units, who understand resource application and expenditures and their effects on operations. It is a human endeavor, assisted by man-made inventions but promulgated by uniquely human skill and effort. It also is the method by which the human participant grasps the phenomenon of armed conflict which defies stereotypes and definitive rules—the moral element of war, of which the human element is a major component.

Education and training are essential to promulgating operational art proficiency in the Army. Our current status in this area is improving, but still somewhat weak. “In view of 40 years of neglect,” wrote L. D. Holder,

“it is not surprising that the body of knowledge that constitutes operational studies is ill-defined and unorganized in the military schools . . . theater operations fall more clearly into the domain of art than that of science . . . the teaching of operational art will resemble political science more than small-unit tactics. While that kind of approach is common in civilian schools, any such teaching will have to

overcome the U. S. military's strong predilection for the scientific, concrete and demonstrable. The impossibility of developing an operational checklist alienates many officers new to the subject."⁹²

The primary responsibility lies with the individual and the individual's motivation to master his profession. Individual officer education and self-improvement have long been mainstays of our profession, and most of the Army's established heroic icons practiced self-education as a matter of course. Social, political, and military history should be the foundations of self-education, but geography, science, and psychology are also important. Reading and shared professional discussion should again become ingrained into the professional officer culture.

Extensive study and preparation over years of effort are the only way that operational proficiency can flourish. Operational art cannot be learned, much less mastered, in a "crash course." One optimistic officer, albeit naive, professed that, "a framework for understanding [operational art] will enable the beginner to economize on time and effort. After all, most professional officers are not historians."⁹³ His approach to developing "instant operational artists" hoped to answer the question: "How does one become a practicing operational artist quickly?"⁹⁴ The obvious answer is that one does not become an operational artist quickly.

The institution must also shoulder some of the weight for developing operational artists. Granted, there is no substitute for combat experience as an educator, but the instances of combat are the exceptions in each officer's career and the spaces must be filled with a logical, sequential progression. Both education and training are necessary. Education, the acquisition of knowledge through study, provides basic concepts of operational art and war. Training, "the practice of the central activities and the conduct of

exercises designed to improve performance of recognized tasks," improves the knowledge learned through education and refines the skills necessary pertaining to operational art. Together they build the "vicarious experience" that future leaders will need on the first day of the next war.⁹⁵

First, the training of operational artists must be broad in scope and discriminating in selection. Not every Army officer has the ability to plan for or lead large tactical-level unit operation or to command a theater campaign. The identification of those that do have the ability should be made early in an officer's career—the first ten to fifteen years. Demonstrated outstanding performance in key troop assignments as a company grade officer and junior field grade officer normally indicates potential for increased responsibilities and command. These officers should also be creative, innovative, bold, exhibit routine initiative, and perform admirably and rationally under pressure.⁹⁶ Once identified, these officers should be centrally managed and attend a resident command and staff college. Without restructuring of the current staff college courses⁹⁷, the selected officers would then attend a year-long extensive and intense course of study which concentrates on military history, theory, campaign planning, and leadership, much like the current School of Advanced Military Studies Program at Fort Leavenworth.

Unique from our present system, however, these officers would then serve *consecutive* tours of duty in divisions, initially, and then corps and field armies (unified commands) to ingrain operational principles and refine their proficiency in operational art. One key objective in these assignments is further exposure to the moral element of war, embodied in the training and experiences of tactical units. Granted, during peacetime these assignments cannot totally replicate war. They can, though, provide the operational

apprentices with proper mentorship, exposure to stressful planning and deployment exercises, and the rigors of tactical operations. Battalion and brigade command and staff and division and higher staff positions would equally diversify their training. The cyclical field training, deployments, and some theater-specific simulations all should be used as vehicles for complementing their development as operational artists. Logisticians, signal officers, and limited specialty officers would all be utilized—not just combat arms officers. Identified by the Army as having special talent, they would be treated as such. Obviously, this is not merely an education problem with which the Army must face, but an institutional metamorphoses that demands integration of the Army's personnel, training, and management functions and policy.

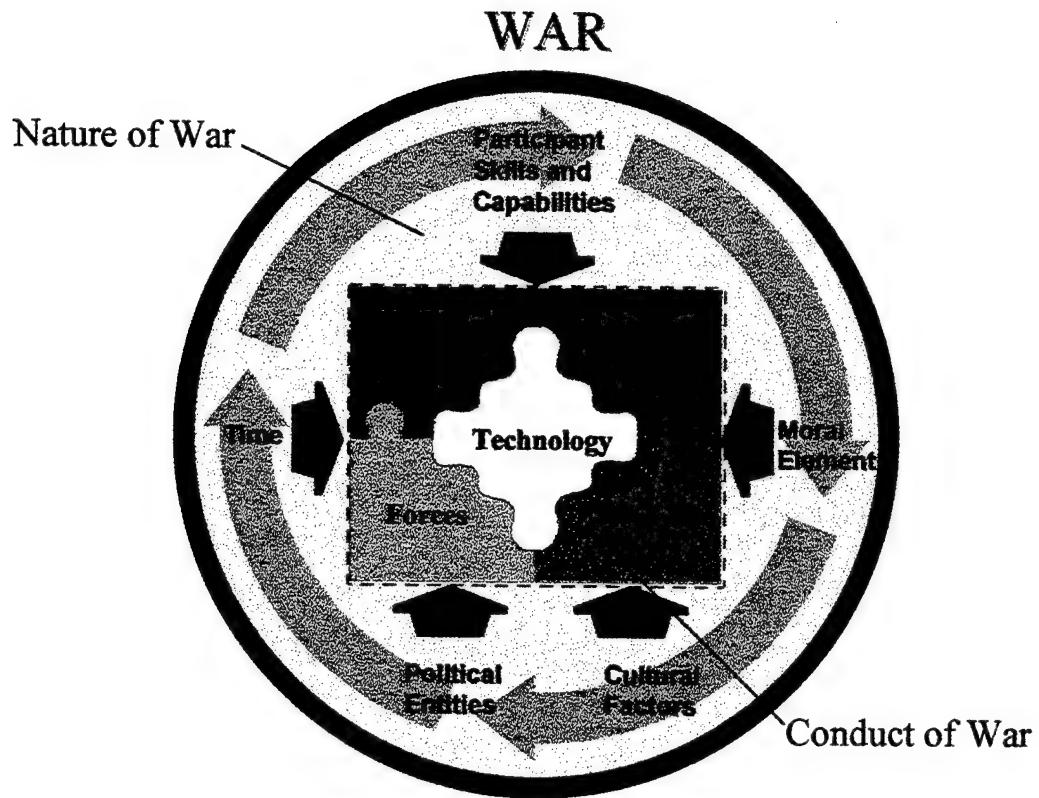
The excitement in our Army over the new technology, tactics, and organizations that are being developed for the twenty-first century is more than justified. However, historical lessons and precedents are too often painfully overlooked during periods of great change. Any RMA that we may be in the midst of will not change the critical importance of operational art and the moral element of war to the achievement of our wartime objectives. Unfortunately, over-zealous military theorists and some senior military leaders today are quick to draw inflated conclusions about the profound changes in the *nature of war* that they believe will inevitably result from technological, organizational, and doctrinal advances.⁹⁸

The multitude of questions which arise from the RMA debate and their associated arguments should not detract military professionals from remembering and acknowledging the true nature of war. Operational art's decisive impact in war and its bond with the moral element of war will remain unchanged as we enter the twenty-first century. The

dividend paid with an institutional investment in the training and education of true operational artists for the twenty-first century warrants the short term hardships that may be faced in institutional restructuring. Fear of elitism be damned.

The past is a proven starting point from where we can acquire some semblance of truth. The solution to problems, wrote du Picq, "lies in the study of what took place yesterday, from which, alone, it is possible to deduce what will happen tomorrow."⁹⁹

APPENDIX



The Relationship between the Conduct of War and the Nature of War

NOTES

¹ J. F. C. Fuller, *Generalship: Its Diseases and Their Cure*, (Harrisburg, PA: Military Service Publishing Company, 1936), 32.

² Department of the Army, Field Manual (FM) 100-5, *Operations* (Washington, D.C.: GPO, 31 May 1993), p. iv.

³ In a paper written by Dr. Richard M. Swain, "Filling the Void: Operational Art and the U. S. Army," in *The Operational Art*, eds. B. J. C. McKercher and Michael A. Hennessy, (Westport, CT: Praeger, 1996), 166, Swain laments the apathetic outlook toward operational art in the Army today. He writes, "The idea of Operational Art did fill a significant void in U. S. military thought . . . That too little of this still goes on, perhaps, is indicative of the need to continue pressing the development of the concept in armed forces once more caught up in a perceived technology-based revolution in military affairs."

⁴ Richard M. Swain, "The Written History of Operational Art," *Military Review* (September 1990), 101.

⁵ Author's definition. Subsequent sections of this paper discuss the various descriptions, interpretations and definitions of operational art.

⁶ Henry E. Eccles, *Military Concepts and Philosophy*, (New Brunswick, NJ: Rutgers University Press, 1965), 118.

⁷ L. D. Holder, "Offensive Tactical Operations," *Military Review*, (December 1993), 54. He added, "It is the job of our doctrine writers and military educators to keep human dynamics firmly in front of our developing leaders."

⁸ See Department of Defense, Joint Chiefs of Staff, Joint Publication 3-0 (JP 3-0), *Joint Operations*. (Washington, D. C.: Joint Electronic Library (JEL) CD-ROM, May 1997), Executive Summary and Chapters II and III. For example, according to the JP 3-0 executive summary, operational art is characterized by the following fundamental elements: synergy, simultaneity and depth, anticipation, balance, leverage, timing and tempo, operational reach and approach, forces and functions, arranging operations, centers of gravity, direct vs. indirect approach, decisive points, culmination, and termination.

⁹ John Turlington, "Truly Learning the Operational Art," *Parameters* (Spring 1997), 54.

¹⁰ John F. Meehan, III, "The Operational Trilogy," *Parameters* (August 1986), 9. Continuing his discussion on the difficulties of the "art," Meehan adds: "The art component causes us more intellectual difficulty. Trained in a tactical environment where the science of war is predominant, we become uncomfortable when facing the intangibles

of the art component at the operational level. Art cannot be mastered through rote learning; it is available for study and reflection, but it is not subject to codification.” 17.

¹¹ David Jablonsky, “Strategy and the Operational Level of War, Part II,” *Parameters* (Summer 1987), 54.

¹² The final draft version of the updated FM 100-5, *Operations*, defines strategy as “the art and science of developing and employing armed forces and other instruments of national power in a synchronized fashion to secure national or multinational objectives.” It completely clouds the picture with its vague description of tactics: “Tactical activities are those conducted by units.” This manual also states that “strategic, operational, and tactical activities are not associated with a particular command level . . . Actions can be described as strategic, operational, or tactical based on their effect or contribution to achieving strategic, operational, or tactical objectives.” Department of the Army, FM 100-5, *Operations*, Final Draft to Revised Edition, (August 1997), pages 2-6, 2-7. It is difficult to envision a field Army conducting a tactical task.

¹³ Author’s definitions. Other doctrinal definitions are discussed later in the paper.

¹⁴ Meehan, 13.

¹⁵ Department of the Army, Field Manual (FM) 100-7, *Decisive Force: The Army in Theater Operations* (Washington, D.C.: GPO, 31 May 1995), p. 3-0.

¹⁶ H. W. Ehr Gott, “Counterbreakthrough,” *Infantry Journal* 49, no. 1 (1941), 7. He added on page 4 that: “War is the art employed by living, hating forces, in thought-controlled motion, attempting to destroy each other through combinations of maneuver and combat Science is a collection of observed uniformities codified into ‘laws.’ That part of war is scientific which involves observed, measured facts, or logical inferences from such facts War can readily be compared to dynamics—the science of forces in motion—but with the important difference that the forces of war are alive. They obey the laws of mechanics; but they also obey the relatively unknown ‘laws’ of human psychology. Like inanimate forces, the forces of war need constant replenishment, or they die. But they can themselves control the replenishment; they can think, will, and act . . . Dynamics involves opposition of forces; war is combat between forces. In dynamics we have the unthinking forces of dead masses; in war we have conscious, directed motion of masses of combat power.”

¹⁷ See Ralph L. Allen, “Piercing the Veil of Operational Art,” *Parameters* (Summer 1995), 115. He writes: “Military art is set apart from other forms of art in that it must be created in an environment where resistance, in the form of friction and moral factors, is ever present.”

¹⁸ FM 100-5, p. 6-2.

¹⁹ Charles G. Suttan, in "Command and Control at the Operational Level," *Parameters* (Winter 1986), 15, wrote that, "Operational art, then, as an integral part of the discipline of military history, can be traced to that French Emperor and his two quarreling students, Clausewitz and Jomini." See also L. D. Holder's article, "A New Day for Operational Art," *Army* (March 1985), 22. Holder writes: "While operational art gives military historians insights into even the earliest campaigns, its roots as a field of study go back no further than the days of Napoleon Bonaparte . . . Clausewitz . . . and Jomini . . . [they] believed that the designing of campaigns, the concentration of large forces before battle and the techniques of exploiting tactical success differed enough from the conduct of battle to merit separate consideration."

²⁰ James J. Schneider, "Theoretical Implications of Operational Art," *Military Review* (September 1990), 26. Schneider adds that, "The historical emergence of operational art was shaped and molded in the foundries of the industrial revolution."

²¹ According to historian David Chandler, Napoleon set several conditions to establish prior to and during a campaign in order to ensure success. He writes: "Napoleon laid down five principles for opening a campaign . . . First, an army must have only a single line of operations; that is to say, the target must be clearly defined and every possible formation directed toward it . . . Second, the main enemy army should always be the objective; only by destroying an opponent's field forces could he be induced to give up the struggle . . . Third, the French Army must move in such a way as to place itself on the enemy's flank and rear, for psychological as well as strategical reasons . . . Fourth, the French Army must always strive to turn the enemy's most exposed flank—that is to say, cut him off from his depots, neighboring friendly forces, or his capital . . . Fifth and last, the Emperor stresses the need to keep the French Army's own lines of communication both safe and open." David G. Chandler, *The Campaigns of Napoleon* (New York: Macmillan Publishing Co., 1966), 162.

²² Carl von Clausewitz, *On War*, ed. and trans. By Michael Howard and Peter Paret, 1984 ed. (Princeton, NJ: Princeton University Press), 190.

²³ Chandler, 382-384.

²⁴ The movement of Napoleon's army to the Rhine River was nothing short of astonishing in its speed and scope. In a period of *thirteen days* he was able to move 226 infantry battalions, 233 squadrons of cavalry, 161 artillery and sapper companies, 396 guns dragged by 6,430 horses, and a total of 210,500 men over a distance of more than 200 miles. *Ibid.*, 386.

²⁵ Steven T. Ross, "Napoleon and Maneuver Warfare", in *The Harmon Memorial Lectures in Military History, 1959-1987*, ed. Harry R. Borowski (Washington, D.C.: Office of Air Force History, U.S. Air Force, 1988), 310.

²⁶ *Ibid.*, 317.

²⁷ Chandler, 390-94.

²⁸ Ross, 313.

²⁹ R.M. Johnston, ed., *Napoleon: The Diaries*, 1994 ed., The Great Commanders Series, (New York: Houghton Mifflin Company, 1910, as *The Corsican: A Diary of Napoleon's Life in His Own Words*; reprint, New York, 1994), 113.

³⁰ Chandler, 402.

³¹ Michael D. Krause, "Moltke and the Origins of Operational Art," *Military Review* (September 1990), 28.

³² Ibid., 42. "Operational direction is a method of command used to attain the strategic objective. Its aim is breaking the will of the enemy commander through the destruction of his army, and its keynote is flexible direction. Moltke's concept of operational direction was the beginning of the operational level of war," wrote Krause. He added on page 29 that, "The Germans in the 19th century delineated three levels of warfare: the traditional strategic and tactical levels (the conduct of war and battle, respectively) and the operational level, which Moltke saw as a level of war between the conduct of the war and fighting a battle . . . Moltke was the first to recognize this difference, and he introduced the term 'operational direction' into the lexicon of modern warfare."

³³ Schneider, 22.

³⁴ Ibid., 24.

³⁵ See Edward N. Luttwak, "The Operational Level of War," *International Security* (Winter 1980/81), 61. In part, he writes: ". . . operational approaches remained the trade secrets and personal attributes of men such as Douglas MacArthur, Patton, and the British General O'Connor, victor of the first North African campaign Otherwise, in World War II as in Korea and of necessity in Vietnam, American ground warfare was conducted almost exclusively at the tactical level, and then at the level of theater strategy above that, with almost no operational dimension in between."

³⁶ Jeffrey Record, "Operational Brilliance, Strategic Incompetence: The Military Reformers and the German Model," *Parameters* (Autumn 1986), 5.

³⁷ Holder, "A New Day for Operational Art," 22.

³⁸ FM 100-5, p. 1-1.

³⁹ Ibid., p. v.

⁴⁰ Ibid., p. 1-5.

⁴¹ Ibid., p. 6-2.

⁴² Id.

⁴³ Joint Publication 3-0 (JP 3-0), Executive Summary and Chapters II and III.

⁴⁴ FM 100-5, *Operations*, Final Draft to Revised Edition, (August 1997), p. viii.

⁴⁵ Ibid., p. 2-7.

⁴⁶ Turlington, 52.

⁴⁷ Helmuth von Moltke, *Moltke on the Art of War*, ed. Daniel J. Hughes, trans. Harry Bell and Daniel J. Hughes, (Novato, CA: Presidio Press, 1993), 172.

⁴⁸ A non-nuclear, low to high intensity conflict.

⁴⁹ Swain writes in "The Written History of Operational Art," 100, that, "Theory, or doctrine for that matter, without a historical foundation is a very weak reed upon which to base one's understanding of war."

⁵⁰ Author's definition.

⁵¹ Moltke, 35.

⁵² Clausewitz, 87.

⁵³ Ibid., 75.

⁵⁴ Ibid., 86.

⁵⁵ Author's definition. Clausewitz comprehensively analyzes the nature of war in Books One and Three in *On War*.

⁵⁶ Clausewitz, 100-104.

⁵⁷ Ibid., 184.

⁵⁸ Chandler, 155.

⁵⁹ Carlo D'Este, *Patton: A Genius for War*, (New York: Harper Collins, 1995), 221.

⁶⁰ FM 100-5, p. 1-2.

⁶¹ Ardant du Picq, *Battle Studies*, trans. John N. Greely and Robert C. Cotton, in *Roots of Strategy*, Book II, (Harrisburg, Pennsylvania: Stackpole Books, 1987), 135.

⁶² Richard Timmons, "The Moral Dimension: The Thoughts of Ardant du Picq," *Infantry Magazine*, Vol. 75, no. 6, (November/December 1985), 11.

⁶³ Earl H. Tilford, Jr., "The Revolution in Military Affairs: Prospects and Cautions" (Strategic Studies Institute Report, U.S. Army War College, 1995), 1.

⁶⁴ Philip Ritcheson, "The Future of Military Affairs: Revolution or Evolution," *Strategic Review*, 24, no.2 (Spring 1996), 31.

⁶⁵ Paul F. Herman Jr., "The Revolution in Military Affairs," *Strategic Review*, 24, no. 2 (Spring 1996), 26-27.

⁶⁶ B. H. Liddell Hart discusses this "Indirect Approach" in his book *Strategy*, 2nd rev. ed. (New York: Meridian, 1991). Liddell Hart believed that the enemy should be attacked physically or psychologically at the point of least resistance.

⁶⁷ du Picq, 128.

⁶⁸ Stephen J. Blank, "Preparing for the Next War: Reflections on the Revolution in Military Affairs," *Strategic Review*, 24, no. 2 (Spring 1996), 21.

⁶⁹ General William W. Hartzog, cover letter to "Land Combat in the 21st Century" (U.S. Army Training and Doctrine Command Pamphlet, 1996), 1.

⁷⁰ This same pamphlet, however, states that "the very nature of warfare is changing," with which I disagree. Among other references to the importance of soldiers, under "Characteristics of Force XXI Operations," it reads: "Non-linearity requires soldiers and leaders to possess greater situational awareness . . . ; Key to distributed operations is the empowerment of soldiers and leaders to use their initiative, willpower, and professional expertise to carry out critical tasks at all echelons . . ."

⁷¹ Lamar Tooke and Ralph Allen, "Strategic Intuition and the Art of War," *Military Review*, (March/April 1995), 11-12.

⁷² General (Retired) Frederick Franks, "Battle Command: A Commander's Perspective," *Military Review*, (May/June 1996), 5.

⁷³ Fuller, 13.

⁷⁴ L. D. Holder, "Educating and Training for Theater Warfare," *Military Review* (September 1990), 90.

⁷⁵ See Brian R. Reinwald's student monograph, "Tactical Intuition's Role and Relevance to Combat Commanders in the Future Force," U. S. Army Command and General Staff College, School of Advanced Military Studies (11 December 1997), 42-43.

⁷⁶ Douglas MacGregor, "Future Battle: The Merging Levels of War," *Parameters* (Winter 1992/93), 33.

⁷⁷ David Langford, *War in 2080* (New York: William Morrow and Company, Inc., 1979), 11.

⁷⁸ See Ralph Peters' two articles, "Constant Conflict," *Parameters* (Summer 1997), and "The Future of Armored Warfare," *Parameters* (Autumn 1997).

⁷⁹ James G. Hunt and John D. Blair, eds., introduction to *Leadership on the Future Battlefield* (New York: Pergamon-Brassey's International Defense Publishers, 1985), 1.

⁸⁰ Gordon R. Sullivan and James M. Dubik, "Land Warfare in the 21st Century," *Military Review* (September 1993), 22.

⁸¹ *Ibid.*, 30.

⁸² FM 100-5, final draft to revised edition, pp. 1-4 to 1-5.

⁸³ *Ibid.*, pp. 3-1 to 3-2. See also TRADOC Pamphlet 525-5, *Force XXI Operations* (Fort Monroe, VA: GPO, August 1994), and "How to Fight Force XXI" White Paper—Decisive Operations (U. S. Army Command and General Staff College Concept Development Program: [<http://www-cgsc.army.mil/cdd/papers/decisive.htm>], undated).

⁸⁴ Schneider, 21.

⁸⁵ *Ibid.*, 25-26.

⁸⁶ *Ibid.*, 27.

⁸⁷ Michael Howard, "The Forgotten Dimensions of Strategy," *Foreign Affairs* (Summer 1979), 985.

⁸⁸ L. D. Holder, "Training for the Operational Level," *Parameters* (Spring 1986), 13.

⁸⁹ Swain, "The Written History of Operational Art," 101.

⁹⁰ G. F. R. Henderson, *The Science of War*, Ed. Neill Malcolm (London: Longmans, Green, and Co., 1905), 48.

⁹¹ Holder, "A New Day for Operational Art," 25.

⁹² Holder, "Educating and Training for Theater Warfare," 88.

⁹³ Scott A. Marcy, "Operational Art: Getting Started," *Military Review* (September 1990), 106.

⁹⁴ *Ibid.*, 107.

⁹⁵ Holder, "Educating and Training for Theater Warfare," 87.

⁹⁶ Holder, "Training for the Operational Level," 10.

⁹⁷ The Army's current year-long, resident Command and General Staff Officer Course at Fort Leavenworth is the senior tactical-level education in the Army. It contains neither the instructional depth nor the extensive expertise required to fully develop officers in tactical mastery, much less operational proficiency. The infusion of medical officers, legal officers, acquisitionists, and combat service support officers dilutes the quality of instruction, which must then be taught at the "lowest common denominator."

⁹⁸ There is a glimmer of hope, however, that the Army's most senior uniformed leaders understand the importance and enduring presence of the moral element of war, and the decisiveness of human performance over technological capability. The current Army Chief of Staff, General Dennis Reimer, stated in a recent "Leader Development" meeting on November 8th, 1996, that: "Leader development is the most difficult part of all the changes effecting the Army. We'll be able to handle the doctrine, tactics, concepts of the Army after next, but the leader development is absolutely fundamental to the success of the Army." United States Army Center For Army Leadership, "Leader Development Update," [<http://www-cgsc.army.mil/cgsc/cal/csa-html/index.htm>], 1996, downloaded February, 1997.

⁹⁹ du Picq, 131.

BIBLIOGRAPHY

1. BOOKS:

- Blumenson, Martin. *The Patton Papers*, vol. II. Boston, MA: Houghton Mifflin Company, 1974.
- Blumenson, Martin, and James L. Stokesbury. *Masters of the Art of Command*. New York: Da Capo Press, Inc., 1975.
- Chandler, David G. *The Campaigns of Napoleon*. New York: Macmillan Publishing Co., 1966.
- Clausewitz, Carl von. *On War*. Ed. and trans. by Michael Howard and Peter Paret, 1984 ed. Princeton, NJ: Princeton University Press, 1976.
- de Saxe, Marshal Maurice. *My Reveries Upon the Art of War*. Trans. by Thomas R. Philips, in *Roots of Strategy*. Harrisburg, PA: Stackpole Books, 1985: 177-300.
- D'Este, Carlo. *Patton: A Genius For War*. New York: Harper Collins Publishers, 1995.
- du Picq, Ardant. *Battle Studies*. Trans. by John N. Greely and Robert C. Cotton, in *Roots of Strategy*, Book II. Harrisburg, PA: Stackpole Books, 1987: 9-299.
- Dupuy, Trevor N. *Understanding War*. New York: Paragon House Publishers, 1987.
- _____. *The Evolution of Weapons and Warfare*. Fairfax, VA: Hero Books, 1984.
- Eccles, Henry E. *Military Concepts and Philosophy*. New Brunswick, NJ: Rutgers University Press, 1965.
- Freytag-Loringhoven, Hugo Baron von. *The Power of Personality in War*. Trans. Oliver Spaulding. Harrisburg, PA: Military Service Publishing Co., 1955.
- Fuller, J. F. C. *Generalship: It's Diseases and Their Cure*. Harrisburg, PA: Military Service Publishing Co., 1936.
- Handel, Michael I. *Masters of War: Sun Tzu, Clausewitz, and Jomini*. Portland, OR: Frank Cass, 1992.
- Henderson, G. F. R. *The Science of War*. Ed. Neill Malcolm. London: Longmans, Green, and Co., 1905.

- Johnston, R. M. ed. *Napoleon: The Diaries*, 1994 ed. The Great Commanders Series. New York: Houghton Mifflin Company, 1910, as *The Corsican: A Diary of Napoleon's Life in His Own Words*. Reprint, New York, 1994.
- Jomini, Antoine Henri. *The Art of War*. Ed. by J. D. Hittle. In *Roots of Strategy*, Book II. Harrisburg, PA: Stackpole Books, 1987: 389-557.
- Langford, David. *War in 2080*. New York: William Morrow and Company, Inc., 1979.
- Luvaas, Jay ed. and trans. *Frederick the Great on the Art of War*. 1995 reprint. The Great Commanders Series. Pennington, NJ: Collectors Reprints, 1995. Orig. pub. 1966 by The Free Press.
- Manchester, William. *American Caesar*. Boston: Little, Brown and Company, 1978.
- McKercher, B. J. C. and Michael A. Hennessy, eds. *The Operational Art*. Westport, CT: Praeger, 1996.
- Military History and Publications Section, The Infantry School. *Infantry in Battle*. Ed. George C. Marshall. Washington, D. C.: The Infantry Journal, Inc., 1939; 3d ed., 2d reprint, Quantico, VA: Marine Corps Association, 1986.
- Moltke, Helmuth von. *Moltke on the Art of War*. Ed. Daniel J. Hughes, trans. Harry Bell and Daniel J. Hughes. Novato, CA: Presidio Press, 1993.
- Mrazek, James E. *The Art of Winning Wars*. New York: Walker and Company, 1968.
- Newell, Clayton R. *The Framework of Operational Warfare*. New York: Routledge, 1991.
- Nye, Roger H. *The Patton Mind*. Garden City Park, NY: Avery Publishing Group, Inc., 1993.
- Paret, Peter. *Clausewitz and the State: The Man, His Theories, and His Times*, 1985 ed. Princeton, NJ: Princeton University Press, 1976.
- _____. *Understanding War*. Princeton, NJ: Princeton University Press, 1992.
- Philips, Thomas R., trans. *The Instruction of Frederick the Great for His Generals*, in *Roots of Strategy*. Harrisburg, PA: Stackpole Books, 1985: 301-400.
- _____, ed. *The Military Maxims of Napoleon*, in *Roots of Strategy*. Harrisburg, PA: Stackpole Books, 1985: 403-441.
- Prioreschi, Plinio. *Man and War*. New York: Philosophical Library, Inc., 1987.

Van Creveld, Martin. *Command in War*. Cambridge, MA: Harvard University Press, 1985.

_____. *Technology and War*. New York: Macmillan, Inc./The Free Press, 1989.

_____. *The Training of Officers*. New York: Macmillan, Inc./The Free Press, 1990.

Wavell, Earl. *Soldiers and Soldiering*. London: Jonathan Cape, 1953.

Wood, William J. *Leaders and Battles*. Novato, CA: Presidio Press, 1984.

2. SERIES/JOURNAL ARTICLES:

Allen, Ralph L. "Piercing the Veil of Operational Art." *Parameters* (Summer 1995): 111-119.

Baumann, Robert F. "Historical Perspectives on Future War." *Military Review* 77, no.2 (March/April 1997): 40-48.

Blank, Stephen J. "Preparing for the Next War: Reflections on the Revolution in Military Affairs." *Strategic Review* 24, no. 2 (Spring 1996): 17-25.

Brower, Charles F. IV. "Commentary on the Operational Art," in *The Operational Art*, eds. B. J. C. McKercher and Michael A. Hennessy. Westport, CT: Praeger, 1996: 193-198.

Cohen, Eliot A. "A Revolution in Warfare." *Foreign Affairs* 75, no. 2: 37-54.

Crowe, William J. Jr. "Senior Officer Education, Today and Tomorrow." *Parameters* (Spring 1987): 2-9.

Czerwinski, Thomas J. "Command and Control at the Crossroads." *Parameters* (Autumn 1996): 121-132.

D'Amura, Ronald M. "Campaigns: The Essence of Operational Warfare." *Parameters* (Summer 1987): 42-51.

Dempsey, Martin E. "Campaign Planning: A Simpler View." *Military Review* 69, no. 7 (July 1989): 76-78.

Donnelly, Charles L. Jr. "An Air Commander's View of Operational Art." *Military Review* 70, no. 9 (September 1990): 79-84.

Doughty, Robert A. "The Art and Science of Tactics." *Parameters* 7, no. 3 (1977): 39-45.

- Dunlap, Charles J. Jr. "21st Century Land Warfare: Four Dangerous Myths." *Parameters* (Autumn 1997): 27-37.
- English, John. "The Operational Art: Developments in the Theories of War," in *The Operational Art*, eds. B. J. C. McKercher and Michael A. Hennessy. Westport, CT: Praeger, 1996: 7-27.
- Ehrgott, H. W. "Counterbreakthrough, Part One." *Infantry Journal* 49, no. 1 (1941): 4-13.
- Franks, Frederick M. Jr. "Full-Dimensional Operations: A Doctrine for an Era of Change." *Military Review* 73, no. 12 (December 1993): 5-10.
- _____. "Battle Command: A Commander's Perspective." *Military Review* 77, no. 3 (May/June 1996): 4-25.
- Franz, Wallace P. "Two Letters on Strategy: Clausewitz' Contribution to the Operational Level of War," in *Clausewitz and Modern Strategy*, ed. Michael Handel. Totowa, NJ: Frank Cass and Company, 1986: 171-194.
- Handel, Michael I. "Clausewitz in the Age of Technology," in *Clausewitz and Modern Strategy*, ed. Michael Handel. Totowa, NJ: Frank Cass and Company, 1986: 51-92.
- Herman, Paul F. Jr. "The Revolution in Military Affairs." *Strategic Review* 24 (Spring 1996): 26-30.
- Holder, L. D. "Educating and Training for Theater Warfare." *Military Review* 70, no. 9 (September 1990): 85-99.
- _____. "Training for the Operational Level." *Parameters* (Spring 1986): 7-13.
- _____. "Offensive Tactical Operations." *Military Review* 73, no. 12 (December 1993): 48-56.
- Howard, Michael. "The Forgotten Dimensions of Strategy." *Foreign Affairs* 57, no. 5 (Summer 1979): 975-986.
- Hyde, James C. and Michael W. Everett. "JLASS: Educating Future Leaders in Strategic and Operational Art." *Joint Force Quarterly* (Summer 1996): 29-33.
- Jablonsky, David. "U. S. Military Doctrine and the Revolution in Military Affairs." *Parameters* (Autumn 1994): 18-36.
- _____. "Strategy and the Operational Level of War: Part I." *Parameters* (Spring 1987): 65-76.

- _____. "Strategy and the Operational Level of War: Part II." *Parameters* (Summer 1987): 52-67.
- Killion, Thomas H. "Clausewitz and Military Genius." *Military Review* 75, no. 4 (July/August 1995): 97-100.
- Krause, Michael D. "Moltke and the Origins of Operational Art." *Military Review* 70, no. 9 (September 1990): 28-44.
- Lang, Walter P. Jr., J. Frank Hennessee, and William E. Bush, Jr. "Jackson's Valley Campaign and the Operational Level of War." *Parameters* (Winter 1985): 48-58.
- Lefebvre, Stephane, Michael Fortman, and Thierry Gongorra. "'The Revolution in Military Affairs': Its Implications for Doctrine and Force Development Within the U. S. Army," in *The Operational Art*, eds. B. J. C. McKercher and Michael A. Hennessy. Westport, CT: Praeger, 1996: 173-192.
- Lind, William S. "An Operational Doctrine for Intervention." *Parameters* (December 1987): 30-36.
- Luttwak, Edward N. "The Operational Level of War." *International Security* 5, no. 3 (Winter 1980/1981): 61-79.
- Luvaas, Jay. "Lee and the Operational Art: The Right Place, The Right Time." *Parameters* (Autumn 1992): 2-18.
- _____. "Thinking at the Operational Level." *Parameters* (Spring 1986): 2-6.
- Macgregor, Douglas A. "Future Battle: The Merging Levels of War." *Parameters* 23, no. 4 (Winter 1992-93): 33-47.
- Marcy, Scott A. "Operational Art: Getting Started." *Military Review* 70, no. 9 (September 1990): 106-112.
- Meehan, John F. III. "The Operational Trilogy." *Parameters* (Autumn 1986): 9-18.
- Murray, Williamson. "War, Theory, Clausewitz, and Thucydides: The Game May Change But the Rules Remain." *Marine Corps Gazette* 81, no. 1 (January 1997): 62-69.
- New, Larry D. "Clausewitz's Theory: *On War* and Its Application Today." *Airpower Journal* (Fall 1996): 78-86.
- Newell, Clayton R. "What is Operational Art?" *Military Review* 70, no. 9 (September 1990): 2-16.

- _____. "Exploring the Operational Perspective." *Parameters* (Autumn 1986): 19-25.
- Record, Jeffrey. "Operational Brilliance, Strategic Incompetence: The Military Reformers and the German Model." *Parameters* (Autumn 1986): 2-8.
- Ritcheson, Philip. "The Future of Military Affairs: Revolution or Evolution." *Strategic Review* 24 (Spring 1996): 31-40.
- Rosinski, Herbert. "Scharnhorst to Schlieffen: The Rise and Decline of German Military Thought." *Naval War College Review* 29, no. 1 (1976): 83-103.
- Ross, Steven T. "Napoleon and Maneuver Warfare", in *The Harmon Memorial Lectures in Military History, 1959-1987*, ed. Harry R. Borowski (Washington, D.C.: Office of Air Force History, U.S. Air Force, 1988), 308-325.
- Schneider, James J. "Theoretical Implications of Operational Art." *Military Review* 70, no. 9 (September 1990): 17-27.
- _____, and Lawrence L. Izzo. "Clausewitz's Elusive Center of Gravity." *Parameters* (September 1987): 46-57.
- Sullivan, Gordon R., and James M. Dubik. "Land Warfare in the 21st Century." *Military Review* 73, no. 9 (September 1993): 13-32.
- Sutten, Charles G. Jr. "Command and Control at the Operational Level." *Parameters* (Winter 1986): 15-22.
- Swain, Richard M. "The Written History of Operational Art." *Military Review* 70, no. 9 (September 1990): 100-105.
- _____. "Filling the Void: The Operational Art and the U. S. Army," in *The Operational Art*, eds. B. J. C. McKercher and Michael A. Hennessy. Westport, CT: Praeger, 1996: 147-172.
- Timmons, Richard F. "The Moral Dimension: The Thoughts of Ardant du Picq." *Infantry Magazine* 75, no. 6 (November/December 1985): 10-11.
- Tooke, Lamar, and Ralph Allen. "Strategic Intuition and the Art of War." *Military Review* 75, no. 2 (March/April 1995): 11-18.
- Turlington, John E. "Truly Learning the Operational Art." *Parameters* (Spring 1987): 51-64.

Ulmer, Walter F. "The Army's New Senior Leadership Doctrine." *Parameters* (December 1987): 10-17.

U. S. Department of the Army. The U. S. Army Infantry School. "Leadership--The Utilization of Personalities." *The Infantry School Mailing List* 11 (1936): 117-127.

Van Creveld, Martin. "The Eternal Clausewitz," in *Clausewitz and Modern Strategy*, ed. Michael Handel. Totowa, NJ: Frank Cass and Company, 1986: 35-50.

Van Riper, Paul and Robert H. Scales, Jr. "Preparing for War in the 21st Century." *Parameters* (Autumn 1997): 4-14.

Warsocki, Michael L. "Intelligence Within Operational Art." *Military Review* 75, no. 2 (March/April 1995): 44-49.

Williamson, William R. "Campaign Planning." *Parameters* (Winter 1984): 20-25.

Woolley, William J. "Patton and the Concept of Mechanized Warfare." *Parameters* (Autumn 1985): 71-80.

Zais, Mitchell M. "Strategic Vision and Strength of Will: Imperatives for Theater Command." *Parameters* (Winter 1985): 59-63.

3. GOVERNMENT PUBLICATIONS:

Department of Defense. Joint Chiefs of Staff. Joint Publication 3-0, *Joint Operations*. Washington, D. C.: Joint Electronic Library (JEL) CD-ROM, May 1997.

Department of the Army. Field Manual (FM) 22-100, *Leadership*. Washington, D.C.: GPO, July 1990.

_____. FM 22-100, *Army Leadership*. Initial Draft to revised edition. Fort Leavenworth, KS: GPO, March 1997.

_____. FM 100-5, *Operations*. Washington, D. C.: GPO, 1982.

_____. FM 100-5, *Operations*. Washington, D. C.: GPO, 1986.

_____. FM 100-5, *Operations*. Washington, D. C.: GPO, 1993.

_____. FM 100-5, *Operations*. Final Draft to Revised Edition. Washington, D. C.: GPO, 5 August 1997.

_____. FM 100-7, *Decisive Force: The Army in Theater Operations*. Washington, D. C.: GPO, 31 May 1995.

- _____. Training and Doctrine Command (TRADOC). Pamphlet 525-5, *Force XXI Operations*. Fort Monroe, VA: GPO, August 1994.
- _____. TRADOC. Pamphlet 525-100-1, *Leadership and Command on the Battlefield*. Fort Monroe, VA: 1992.
- _____. TRADOC. Pamphlet, *Land Combat in the 21st Century*. Fort Monroe, VA: GPO, 1996.
- Department of the Navy. Headquarters, United States Marine Corps. FMFM 1, *Warfighting*. Washington, D. C.: GPO, 1989.
- _____. *Sound Military Decision*. Newport, Rhode Island: U. S. Naval War College, 1942.
- War Department. FM 100-5, *Field Service Regulations, Operations*. Washington, D. C.: GPO, 15 June 1944.
4. MONOGRAPHS/PAPERS/REPORTS:
- Chilcoat, Richard A. "Strategic Art: The New Discipline for 21st Century Leaders." Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 1995.
- Hooker, Richard D. Jr. "21st Century Doctrine and The Future of Maneuver." *Land Warfare Paper no. 8*. Arlington, VA: Association of the United States Army, The Institute of Land Warfare, October 1991.
- Jablonsky, David. "Why is Strategy Difficult?" *Professional Readings in Military Strategy, no. 4*. Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 1992.
- Johnsen, William T., Douglas V. Johnson II, James O. Kievit, Douglas C. Lovelace, Jr., and Steven Metz. "The Principles of War in the 21st Century: Strategic Considerations." Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 1995.
- Kipp, Jacob. "Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936." [<http://leav-www.army.mil/fmso/opart/pubs/redopart.htm>], Foreign Military Studies Office, U. S. Army, Fort Leavenworth, KS, June 1997.
- Tilford, Earl H. Jr. "The Revolution in Military Affairs: Prospects and Cautions." Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 1995.

Tritten, James J. "Let's Put 'War' Back Into Warfighting." Norfolk, VA: Naval Doctrine Command, June 1994.

Watts, Barry D. "Clausewitzian Friction and Future War." *McNair Paper* #52. Washington, D. C.: Institute for National Strategic Studies, National Defense University, October 1996.

5. NEWSPAPERS/PERIODICALS/INTERNET SOURCES:

Blumenson, Martin. "Troop Command by Intuition: The Giants Had It." *Army*, vol. 37, no. 12, December 1987, 52-59.

Department of the Army. Command and General Staff College, Corps and Division Doctrine Department. "How to Fight Force XXI" White Paper—Decisive Operations [<http://www-cgsc.army.mil/cdd/papers/decisive.htm>]. U. S. Army Command and General Staff College Concept Development Program, undated.

Holder, L. D. "A New Day for Operational Art." *Army* 35, no. 3 (March 1985): 22-32.

McMichael, Scott R. "CGSC Change Necessary, Overdue." *Army* 34, no. 12 (December 1984): 89.